

REMARKS

The Applicants hereby submit the present Amendment and Request for Reconsideration for the above-referenced patent application, entry of which is earnestly solicited. Claims 2, 3, 6, 7, 10, 11, 14, 15, 17, 18, 19, 20, 26, and 28, of the present application have been amended; claim 23 has been canceled. Thus, claims 1-22, and 24-30, are pending in the present application. The Applicants respectfully submit that no new matter has been entered.

In the Office Action mailed on 21 March 2005, the Examiner indicated that claims 3-5, 11-13, 20-22, 28-30 were directed to allowable subject matter. These claims were merely objected to as being dependent upon a rejected base claim but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, the Applicants respectfully acknowledge the Examiner's conditional allowability of such claims. Such claims warrant a broad scope of coverage for the present invention.

In the same Office Action, the Examiner rejected claim 18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which the Applicants regard as the invention. Specifically, "the negative limitation in line 1 renders the meaning and scope of the claim unclear and/or indefinable". In response, the Applicants amend claim 18 so as to delete the negative limitation and recite the limitation "each coil layer extending continuously between the write gap layer and the lower pole of the magnetic yoke" to overcome the Examiner's rejection. Also, the Applicants amend claim 20 so as to recite the limitation "each coil layer extending continuously between the write gap layer and the lower pole of the magnetic yoke" to further limit the location of the coil layers.

Based on the above amendments, all § 112 rejections should now be withdrawn.

In the same Office Action, the Examiner rejected dependent claims 2 and 10 because the resistance parameter is indeterminate because the structural recitation is insufficiently claimed. In response, amended claims 2 and 10, respectively, incorporate the added limitation “of less than 4 Ohms”, which is the limitation found in conditionally-allowed dependent claim 28.

In the same Office Action, the Examiner rejected independent claims 17 and 26 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,452,742 to Crue et al. (hereinafter Crue), or alternatively U.S. Patent No. 6,781,790 to Sasaki et al. (hereinafter Sasaki). In response, the Applicants respectfully submit that amended claims 17 and 26 are allowable over the prior art of record for at least the following reasons.

Amended claims 17 and 26, respectively, incorporate the limitation “wherein the write coil has an electrical resistance of less than 4 Ohms”, which is the limitation found in conditionally-allowed dependent claim 28. Thus, pending claims 17-30 are allowable over the prior art of record. The above-stated amendments to independent claims (as opposed to any amendments to the conditionally-allowed dependent claims themselves) have been made so as to maintain the benefit of all pending dependent claims.

In the same Office Action, the Examiner rejected independent claims 1 and 9 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,452,742 to Crue et al. (hereinafter Crue), or alternatively U.S. Patent No. 6,781,790 to Sasaki et al. (hereinafter Sasaki). In response, the Applicants respectfully submit that these claims are allowable for at least the following reasons.

As apparent from the specification and claims, the present application relates to write coils having reduced electrical resistances for reducing thermal protrusion in magnetic heads and magnetic recording devices. Such write coils, exhibited by the claim limitation “each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer”, provides for a relatively large amount of

coil materials to be used which reduces the coil's electrical resistance. This, in turn, reduces the heat generated by the write coil during operation.

No prior art reference of record teach or suggest such a write coil structure having "each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer". Thus, since no single prior art reference of record teaches or suggests a write coil structure having "each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer", claims 1 and 9 are allowable over the prior art of record. Furthermore, dependent claims 2-8 of independent claim 1 and dependent claims 10-16 of independent claim 9 are also allowable over the prior art of record.

The Applicants amend conditionally allowed dependent claims 3 and 11 to further define patentable subject matter over the prior art of record. Amended claims 3 and 11 include the limitations "a first pedestal formed below the upper pole; a second pedestal formed above the lower pole; each coil layer further extending between a first height defined between a top of one of the first and the second pedestals and the write gap layer; and each coil layer further extending between a second height defined between at least half of a height of the other of the first and the second pedestals and the write gap layer". The Applicants respectfully submit that no new matter has been added by the amendment of claims 3 and 11. Exemplary support for the added limitations may be found at e.g. page 18 at lines 3-18 and FIG. 13 of the present application.

No prior art reference of record teach such a magnetic head or magnetic recording device write coil structure having "a first pedestal formed below the upper pole; a second pedestal formed above the lower pole; each coil layer further extending between a first height defined between a top of one of the first and the second pedestals and the write gap layer; and each coil layer further extending between a second height defined between at least half of a height of the other of the first and the second pedestals and the write gap layer". Thus, claims 3 and 11 are allowable over the prior art of record.

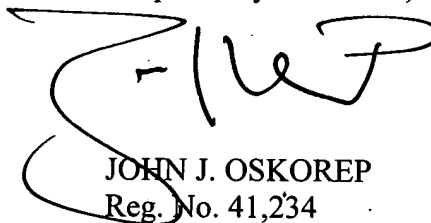
The Applicants amend rejected dependent claims 7 and 15 to further define patentable subject matter over the prior art of record. Amended claims 7 and 15 include the limitations “a first pedestal formed below the upper pole; a second pedestal formed above the lower pole; each coil layer further extending continuously to a fullest extent between the upper and the lower poles”. The Applicants respectfully submit that no new matter has been added by the amendment of claims 7 and 15. Exemplary support for the inserted limitations may be found at e.g. page 12 at lines 21-22, page 13 at line 1, and FIG. 13 of the present application.

No prior art reference of record teach such a magnetic head or magnetic recording device write coil structure having “a first pedestal formed below the upper pole; a second pedestal formed above the lower pole; each coil layer further extending continuously to a fullest extent between the upper and the lower poles”. Thus, claims 7 and 15 are allowable over the prior art of record.

Based on the above, the Applicant submit that all pending claims are allowable over the prior art of record and that the present application is now in a condition suitable for allowance.

Thank you. Please feel free to contact the undersigned if it would expedite the prosecution of the present application.

Respectfully submitted,



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Date:

21 June 2005

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